

Figure 1(a)

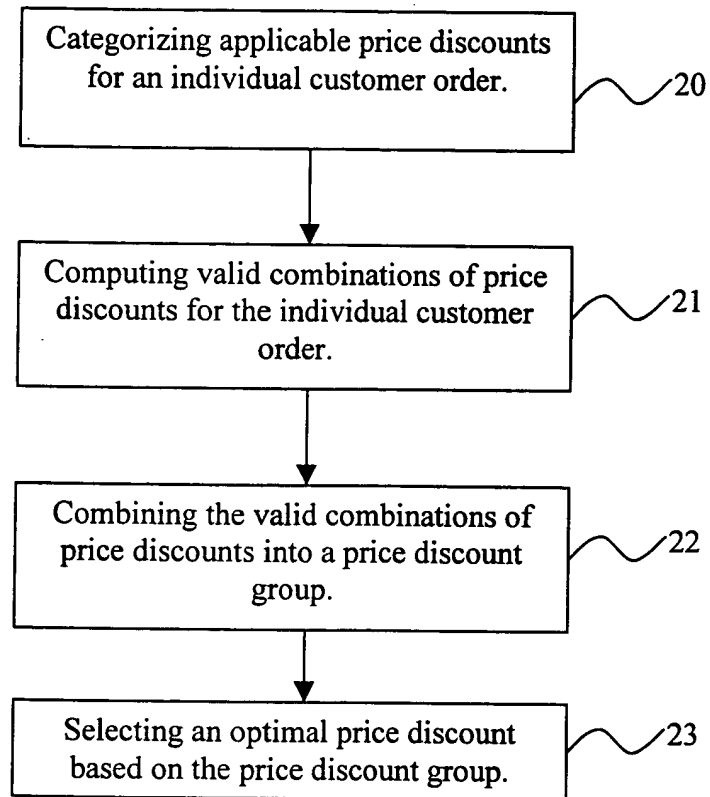


Figure 1(b)

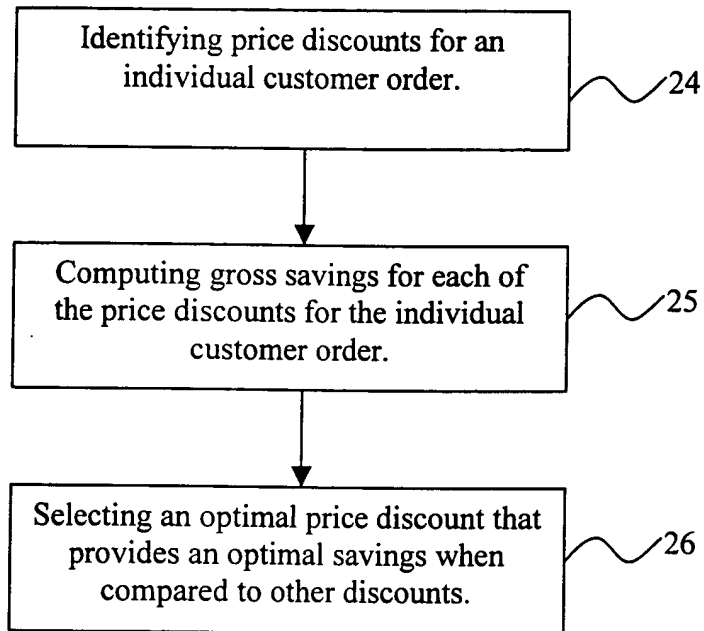
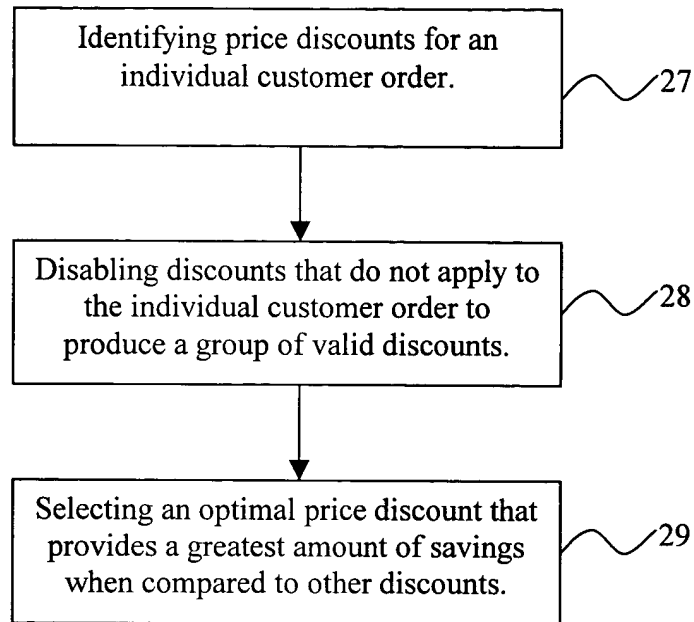


Figure 1(c)



Discount RuleSet

Working Memory

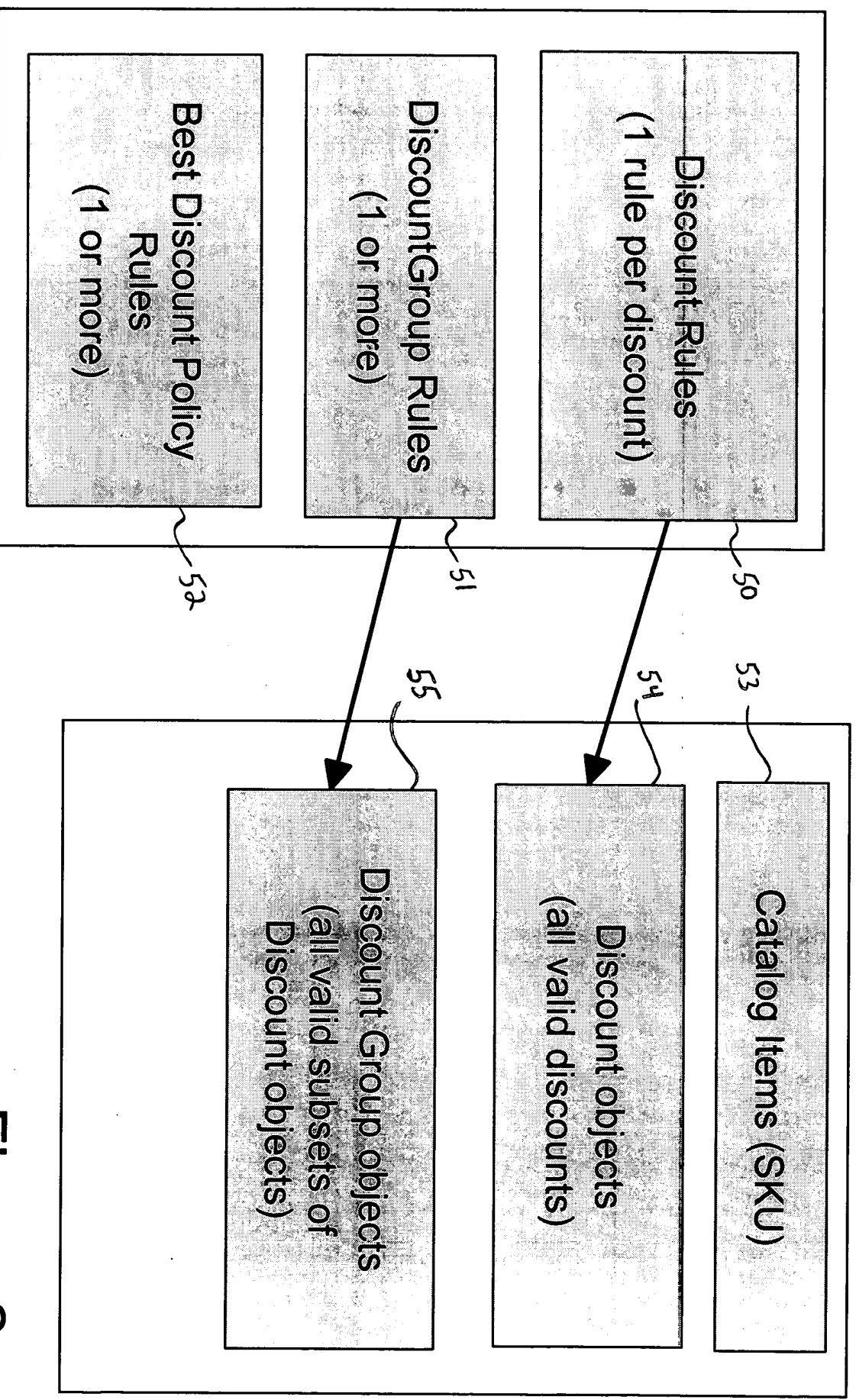


Figure 2

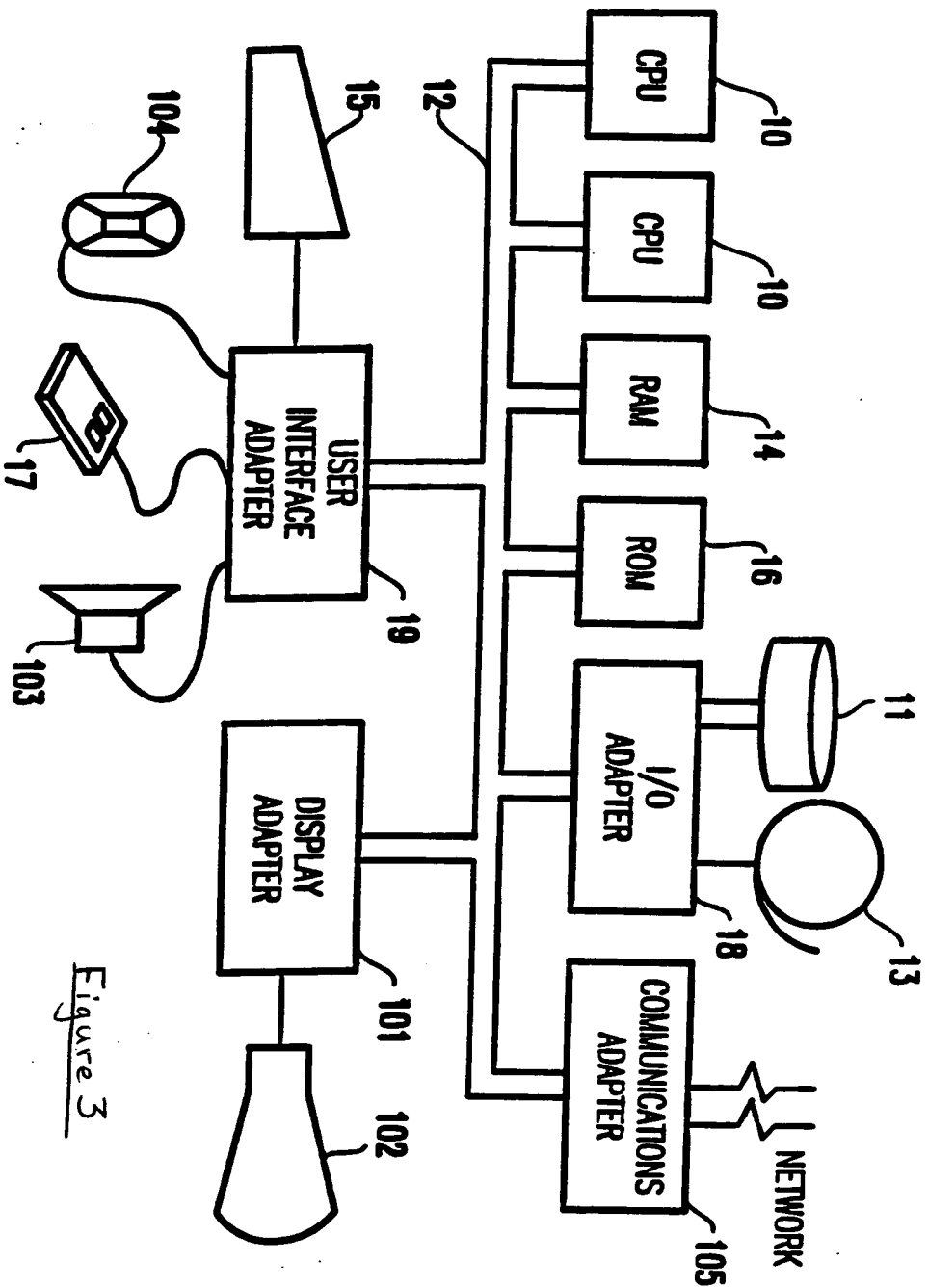
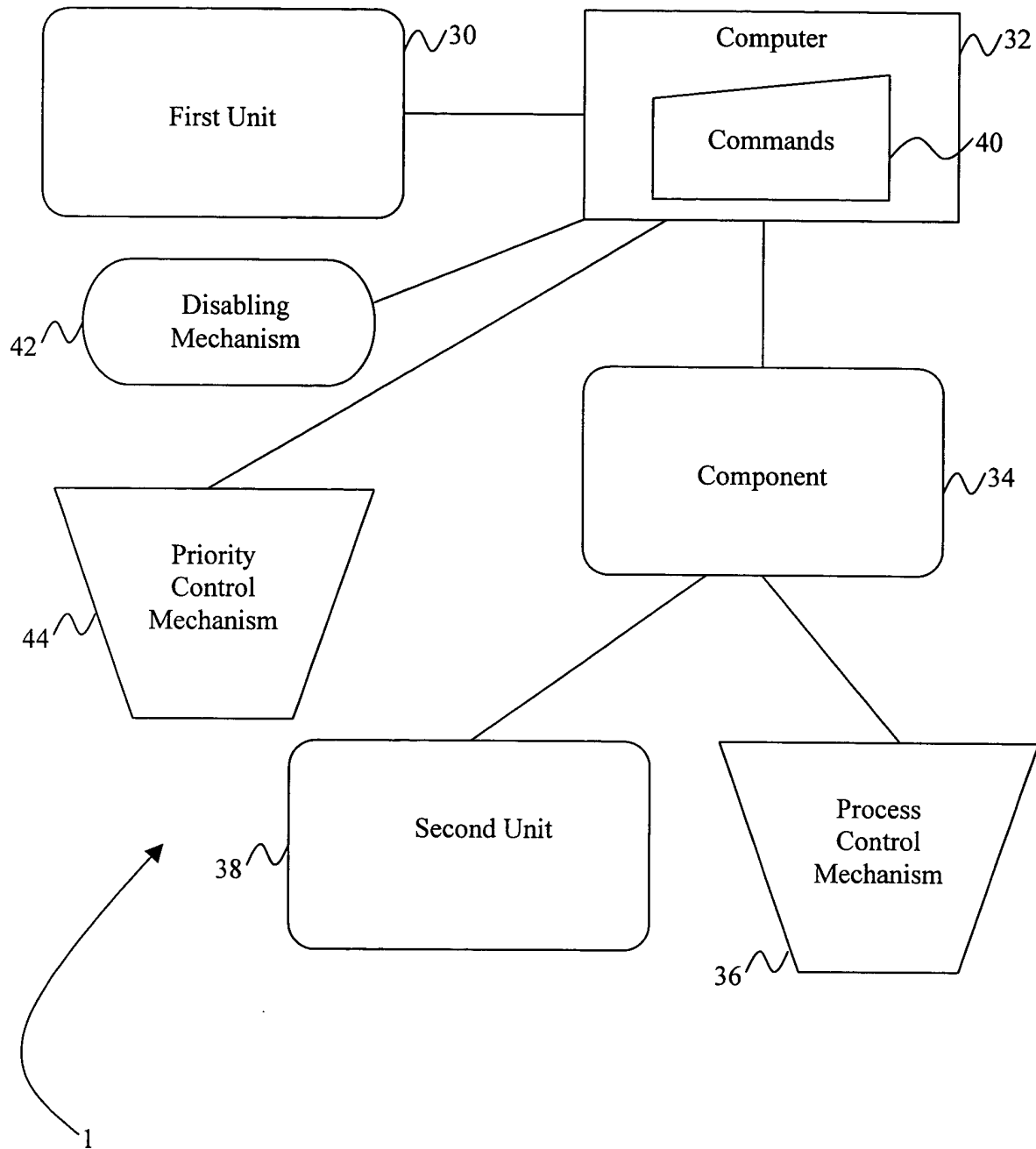


Figure 3

Figure 4



Example Discount Pattern Match Rule

```
Rule_Discount_1[4.0]: when (phase String ( phase == "0" ) &
    item OrderEntry ( item.orderId == order.orderId, item.productName == "A" ) &
    discount Discount ! ( discount.name == "A" )
)
do (newDiscount = createInstance("test.Discount")
    newDiscount.name = "A"
    rc = setMember(newDiscount, "type", "free-merchandise")
    newDiscount.factor1 = 1.0
    rc = invoke(newDiscount, "applyDiscount", item)
    rc = assert(wm, newDiscount)
    newDiscountGroup = createInstance("test.DiscountGroup")
    rc = invoke(newDiscountGroup, "addDiscount", newDiscount)
    rc = assert(wm, newDiscountGroup)
)
```

Figure 5

Example DiscountGroup Pattern Match Rule

```
ule_6[4.0]:  
  when (phase String ( phase == "1" ) &  
    discount Discount ( discount.discountValue > 0.0 ) &  
    discountGroup DiscountGroup (   
      falseValue == invoke(discountGroup, "containsDiscount", discount  
        falseValue == invoke(discountGroup, "containsItems", discount) )  
    discountGroup2 DiscountGroup !(  
      trueValue == invoke(discountGroup2, "containsSameItems", discountGroup, discountGroup2)  
    )  
  do (newDiscountGroup = createInstance("test.DiscountGroup")  
    rc = invoke(newDiscountGroup, "copyDiscounts", discountGroup)  
    rc = invoke(newDiscountGroup, "addDiscount", discount)  
    rc = userBreakpoint(this, "adding new discount group to wm")  
    rc = assert(wm, newDiscountGroup)  
  )  
)
```

Figure 6